REMARKS

The Office Action mailed October 20, 2004 has been reviewed and carefully considered. Claims 9-16 have been added. Claims 1-16 are pending, the independent claims being 1 and 9. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Claims 1-8 stand rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 5,951,474 to Matsunaga et al. ("Matsunaga") in view of U.S. Patent No. 6,396,269 to Hajnal et al. ("Hajnal").

Claim 1 of the present invention recites:

> a magnetic resonance image is derived from the sub-sampled magnetic resonance signals and on the basis of previously determined spatial coil sensitivity profiles of each RF coil in the set of RF receiving coils (20), said spatial coil sensitivity profiles being mutually independent, and the planes of the at least two receiving coils extend substantially parallel to one another and to the z-direction.

As item 4 of the Office Action appears to acknowledge, Matsunaga fails to disclose or suggest the above-quoted feature of claim 1.

Matsunaga overlaps (column 5, line 10: "overlapping"; column 6, line 50: "overlapped"; col. 8, line 44: "overlap") two pairs of coils to form a pair of quadrature (QD) coils (col. 4, lines 64-65). The butterfly coils are utilized to detect a magnetic resonance (MR) signal component perpendicular to that detected by the rectangular coils (col. 5, lines 33-65).

Hajnal implements SENSE on a single pair of coils 4, 5, to derive a slice image (col. 1, line 64: "slice image"), the slice being disposed perpendicularly to the main magnetic field (col. 1, lines 19-20: "main magnetic field").

In contrast to Hajnal, a Matsunaga slice image is parallel to the main magnetic field.

The Office Action suggests that it would have been obvious, in view of Hajnal which implements SENSE on a single pair of coils, to implement SENSE on the Matsunaga quadrature coils which combine butterfly and rectangular coils overlappingly, with spatial sensitivity profiles of each coil being "mutually independent." The current applicants fail to see why such a modification of Matsunaga would have been obvious.

Rather, it appears that the modification proposed in the Office Action arises from impermissible hindsight by an Examiner who has seen the instant patent application.

For at least the above reasons, the proposed combination of references fails to render obvious the present invention as recited in claim 1.

As to the other rejected claims, each depends from the base claim 1 which has been shown to distinguish patentably over the proposed combination of references and is likewise deemed to be patentable.

New claims 9-16 are apparatus claims based on the method claims 1-8, and find support in the specification (e.g., page 5, line 29; page 8, lines 11-12).

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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Date: January 20, 2005

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